



PIONEER
Pioneer Energy Services

**MICRORESISTIVITY
LOG**

Company **SAPPHIRE RESOURCE, LLC**
Well **TRACY NO.1 OWWO DEEPENING**
Field **GROENDYCKE SOUTH**
County **BARBER** State **KANSAS**

Location: **API #: 15-007-22153-00-01**
4950' FSL & 1650' FEL
SEC 11 TWP 34S RGE 12W
Permanent Datum **GROUND LEVEL Elevation 1502'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**
Other Services
**CNL/CDL
DIL/BHCS**
Elevation
K.B. 1515'
D.F. N/A
G.L. 1502'

Date	2/03/2020
Run Number	ONE
Depth Driller	5386'
Depth Logger	5390'
Bottom Logged Interval	5389'
Top Log Interval	3900'
Casing Driller	8.625" @ 303'
Casing Logger	308'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	4000
Density / Viscosity	9.2 46
pH / Fluid Loss	11.0 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.80 @ 56
Rmt @ Meas. Temp	.60 @ 56
Rmc @ Meas. Temp	1.08 @ 56
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.34 @ 130
Operating Rig Time	5 HOUR
Max Rec. Temp. F	130 DEG. F.
Equipment Number	P-108
Location	HAYS
Recorded By	M. HISS
Witnessed By	RICK D. BRISCOE
	J. HENRICKSON

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.
MEDICINE LODGE
SOUTH TO SCOTT CANYON RD, 1 WEST, 1 NORTH,
1/2 WEST, SOUTH INTO.

Log Measured From: **KELLY BUSHING** 13 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerres.com 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: M. HISS	Primary Witness: RICK D. BRISCOE
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\sapphire_tracy_#1_owwo.db
 Dataset field/well/STACKML/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	130	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	240	50	Off	5390

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)	
GR	44.50		GR-M&W (89-M&W)	3.00	3.50	50.00	
CNLSC CNSSC	41.40 40.65		CNT-M&W (tk10-MW)	5.50	3.50	100.00	
LSD DCAL SSD	32.35 32.33 31.85		CDL-M&W (934-229)	8.50	4.00	250.00	
ML-PSI UDM ML (UDM-01) Stackable Microlog Tools			ML-PSI UDM ML (UDM-01) Stackable Microlog Tools	11.50	4.00	215.00	
MCAL MI MN	20.87 20.87 20.87						
RLL3 RLL3F	15.80 15.79						
CILD	8.00			DIL-M&W (55-222)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: sapphire_tracy_#1_owwo.db: field/well/STACKML/pass3.1
 Total length: 47.00 ft
 Total weight: 835.00 lb
 O.D.: 4.00 in

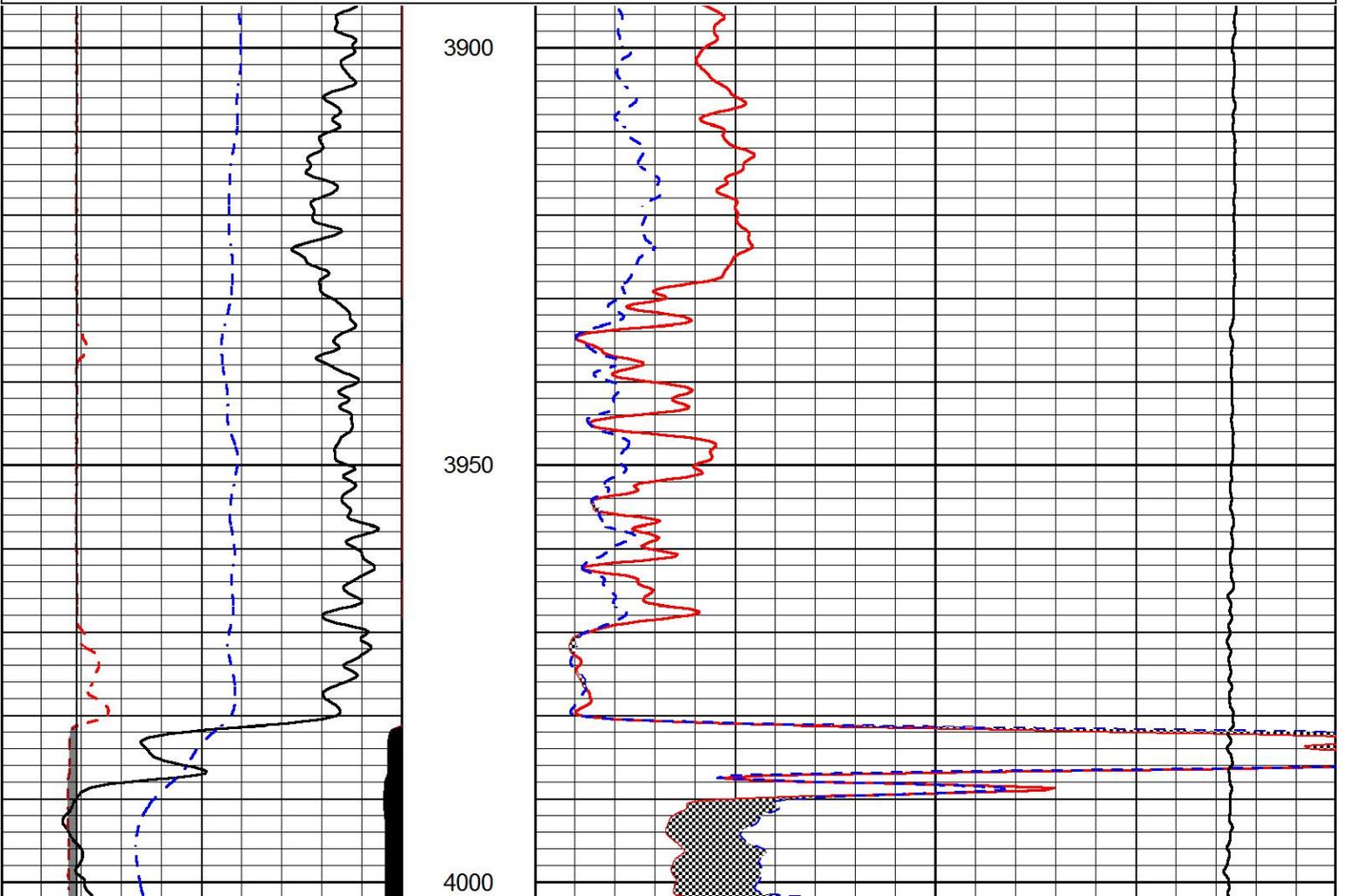


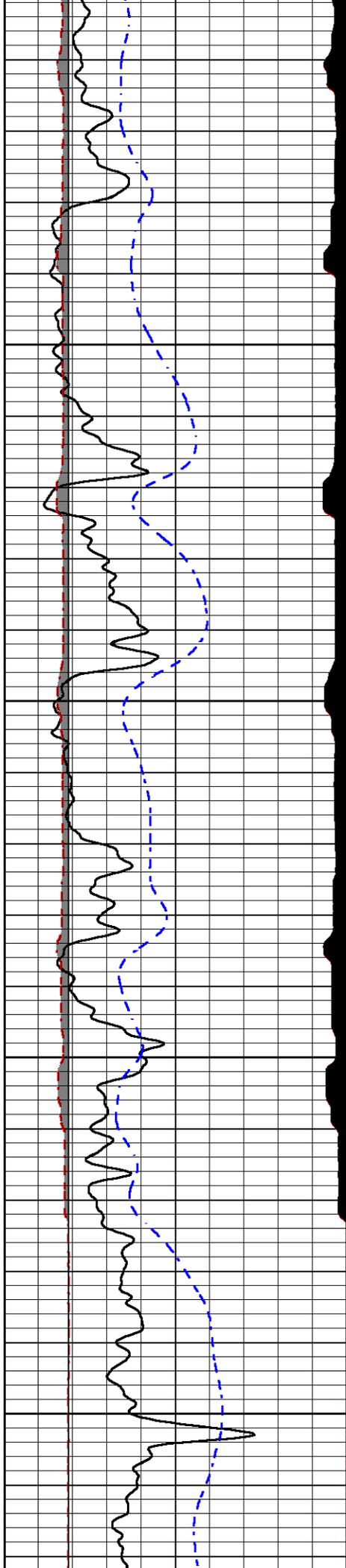
MAIN PASS

Database File sapphire_tracy_#1_owwo.db
 Dataset Pathname STACKML/pass3.1
 Presentation Format micro
 Dataset Creation Tue Feb 04 01:13:56 2020
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0



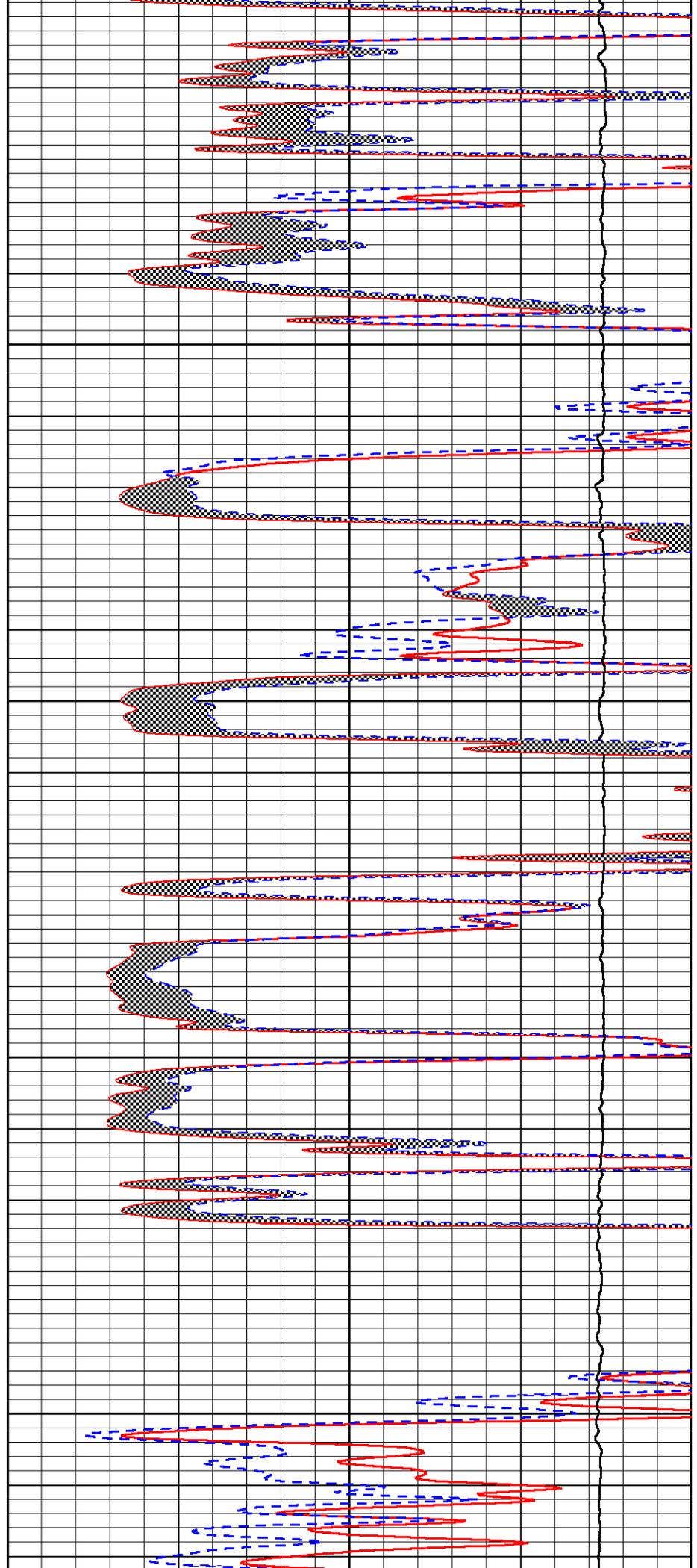


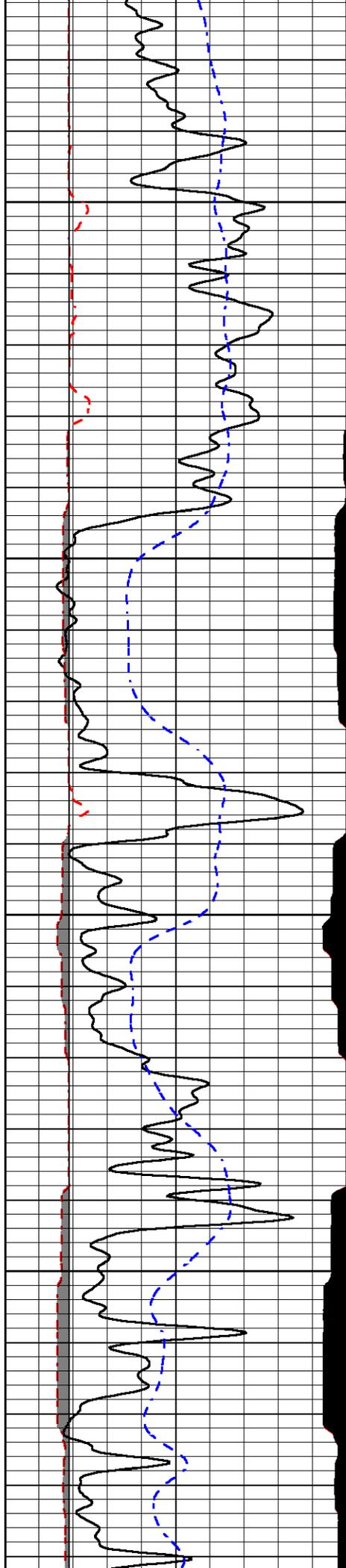
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4100

4150

4200



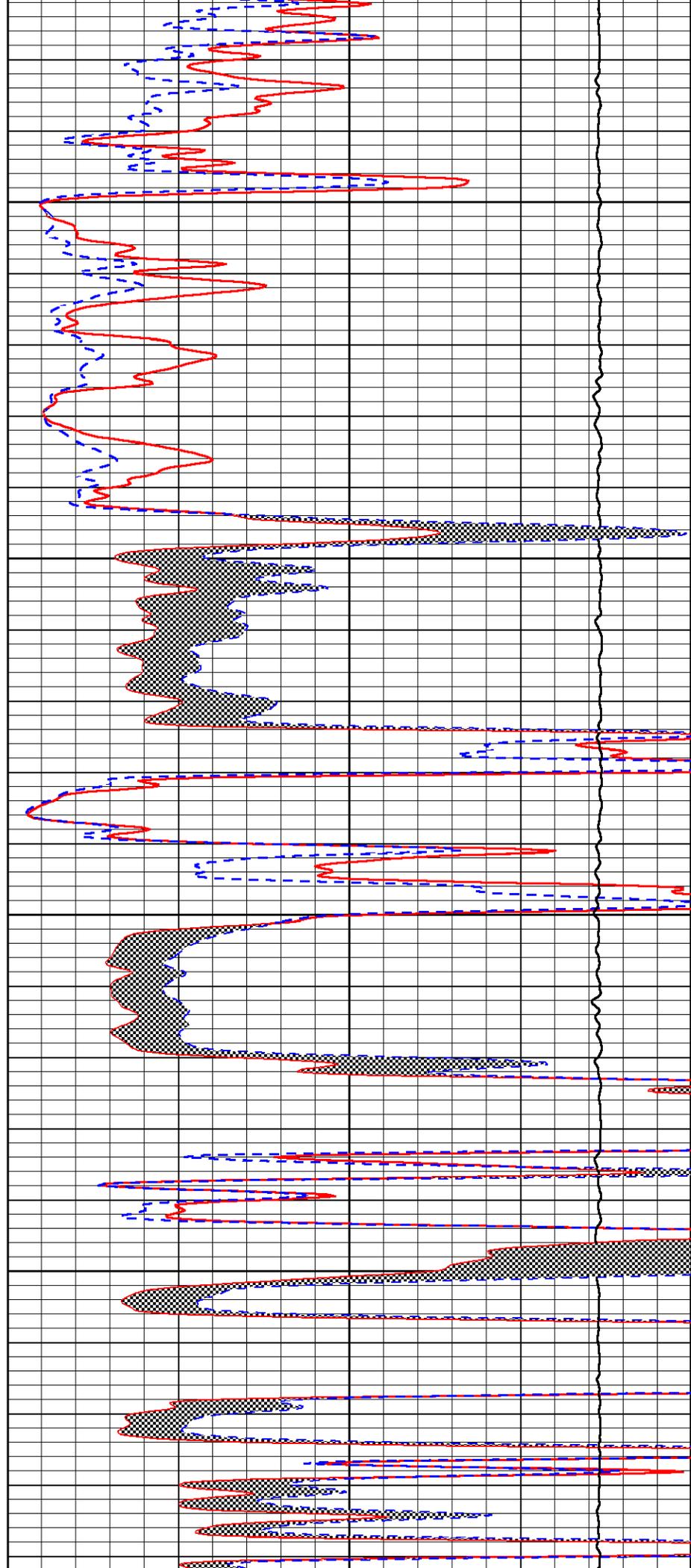


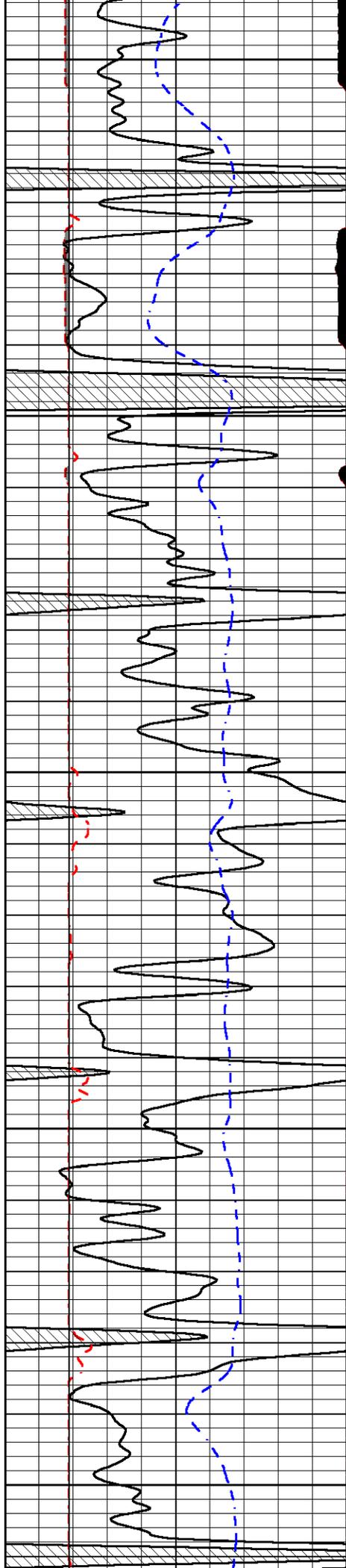
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4300

4350

4400





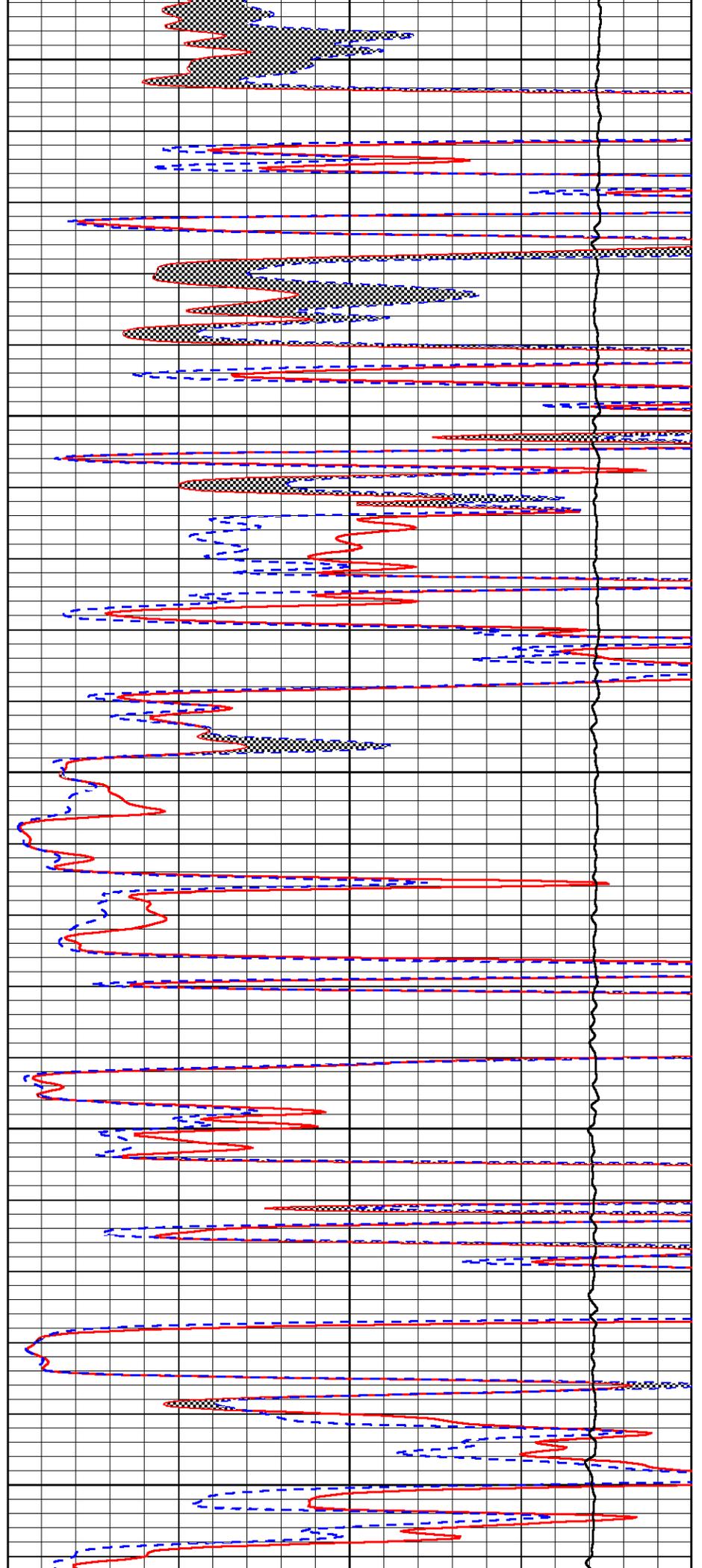
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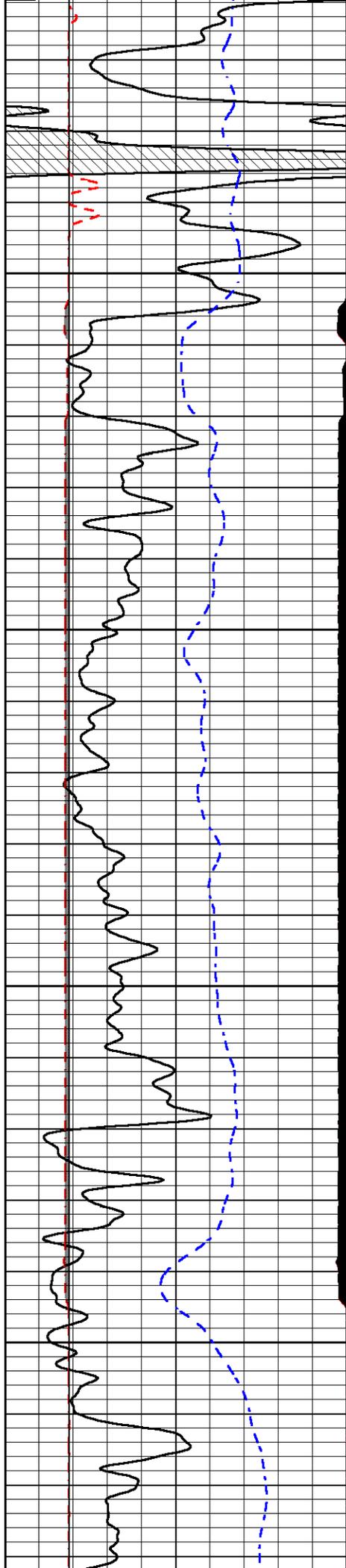
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4550

4600

4650



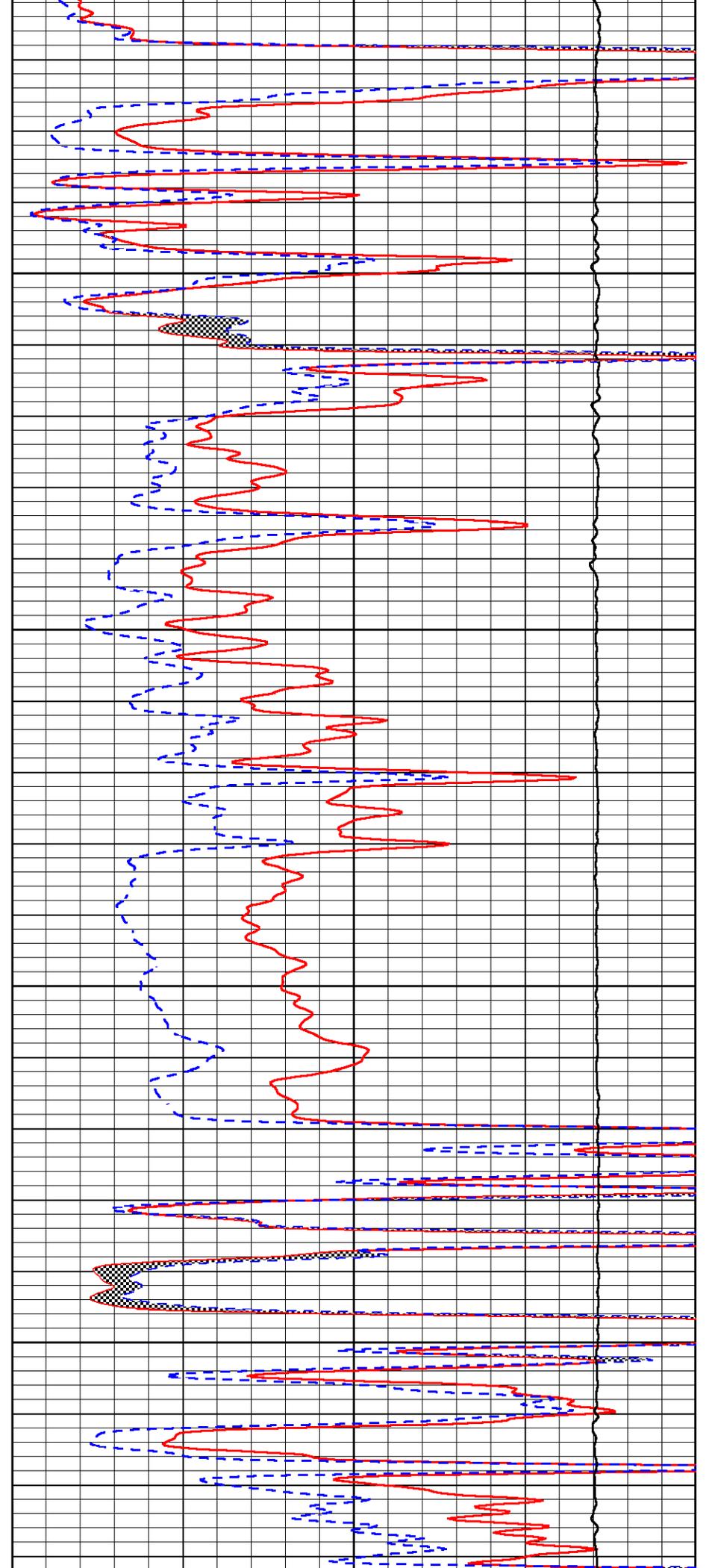


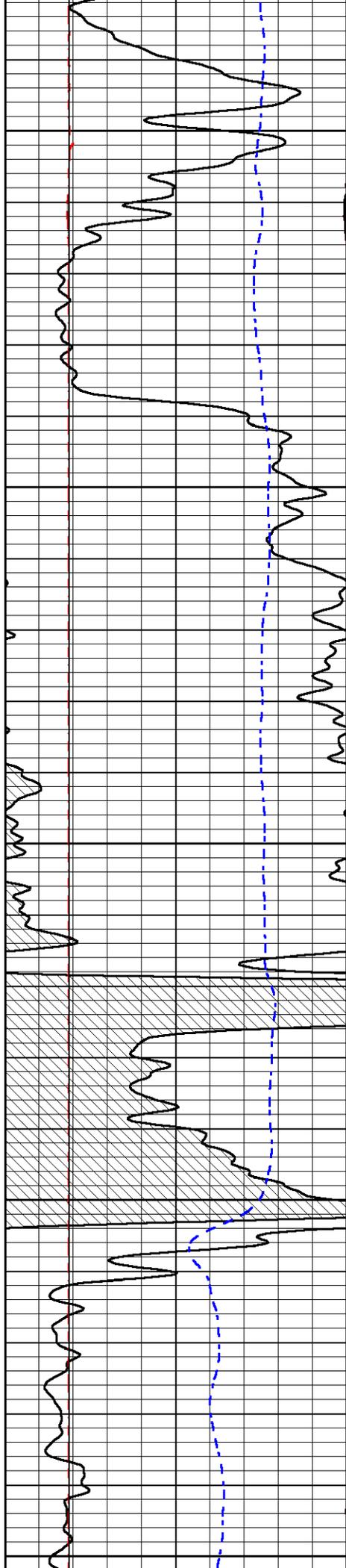
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4850





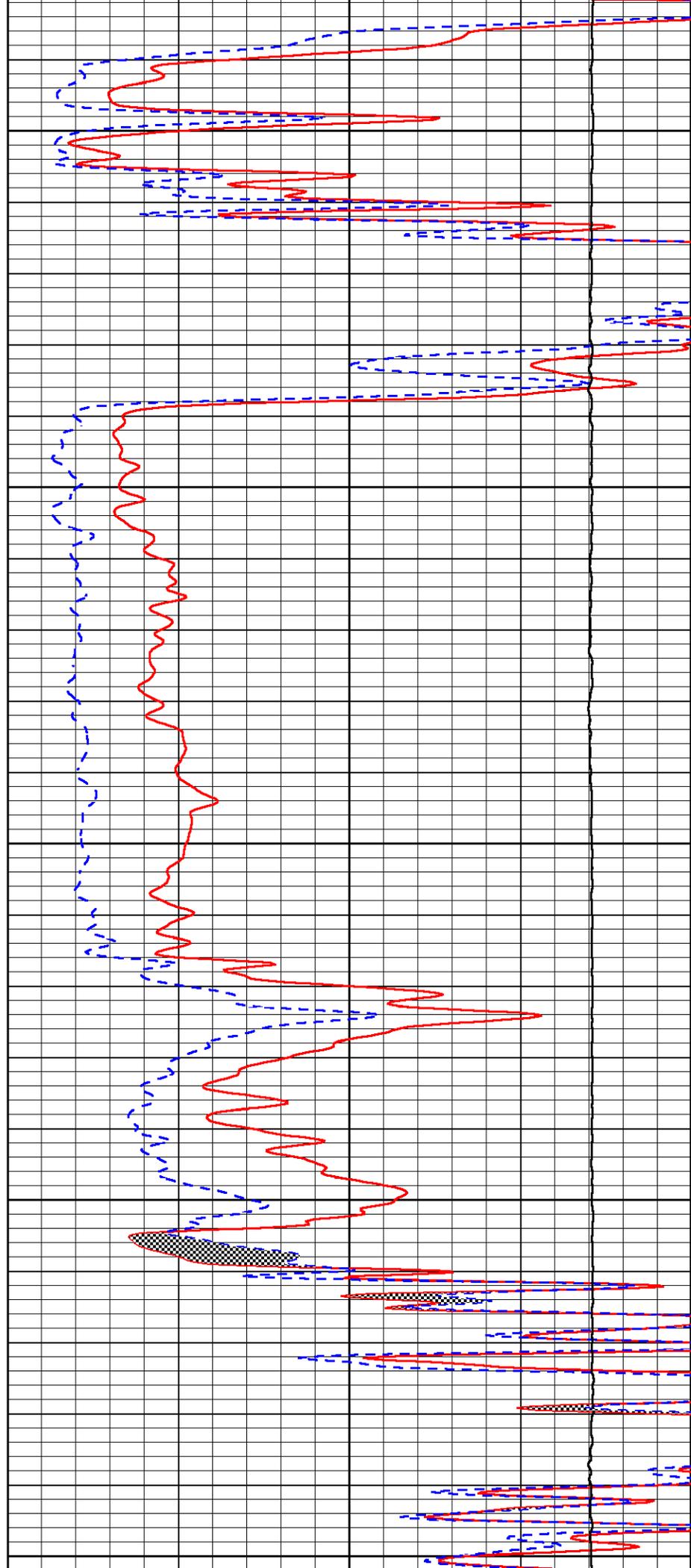
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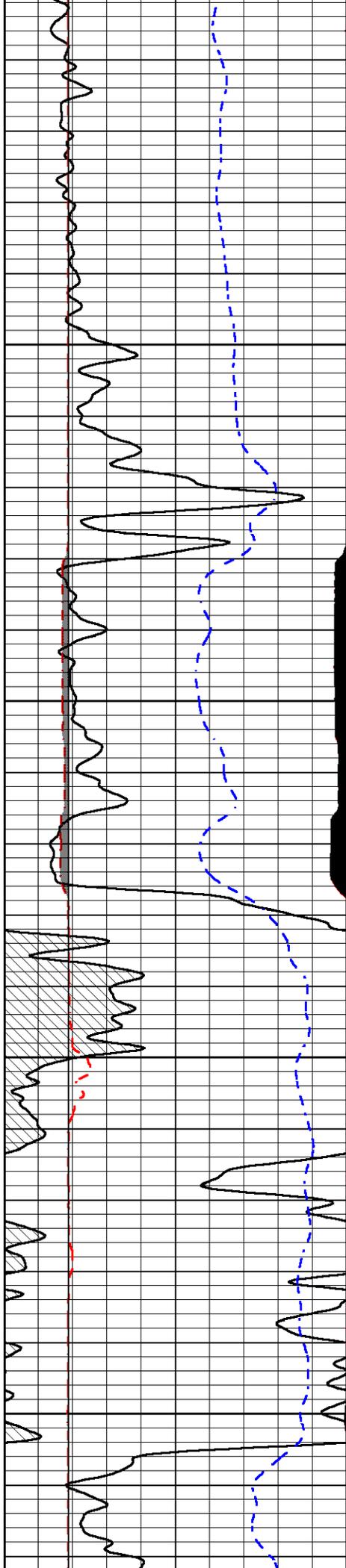
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5000

5050

5100



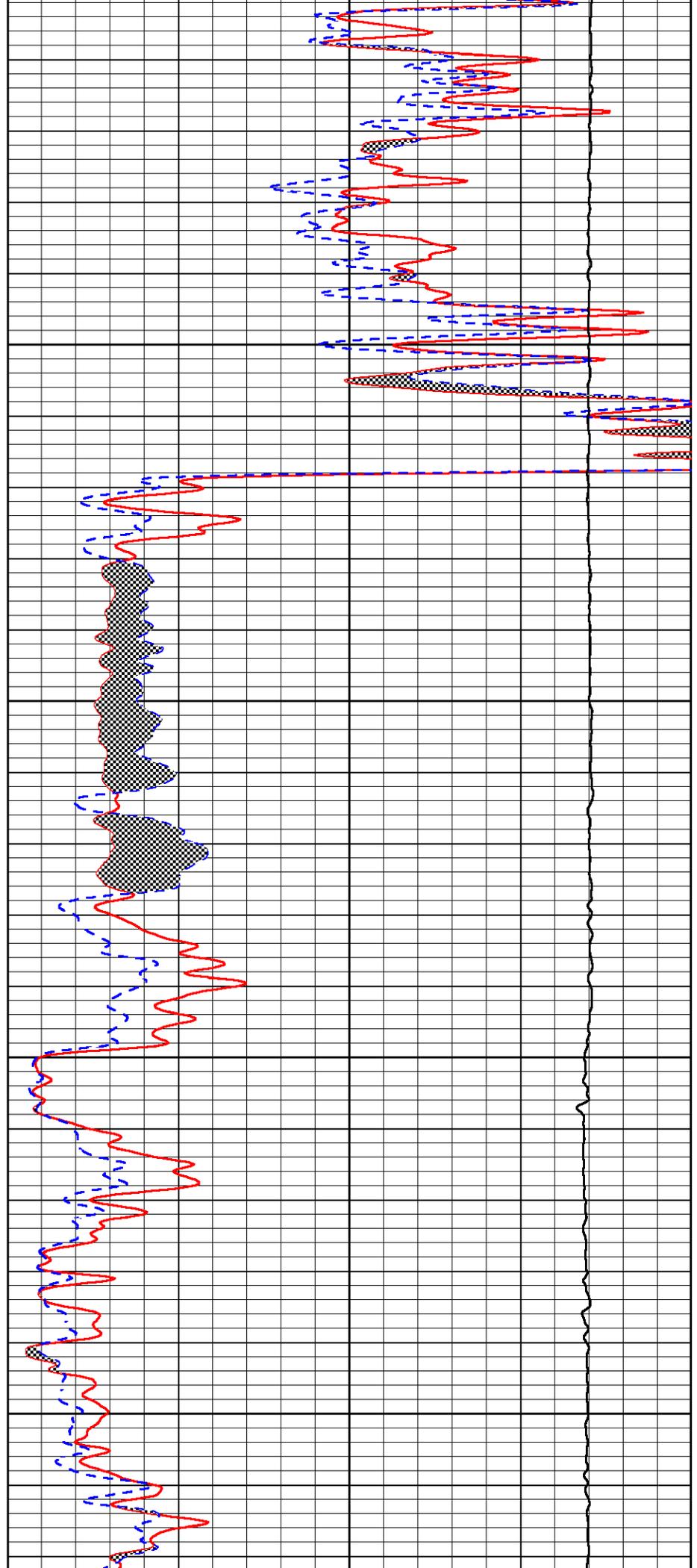


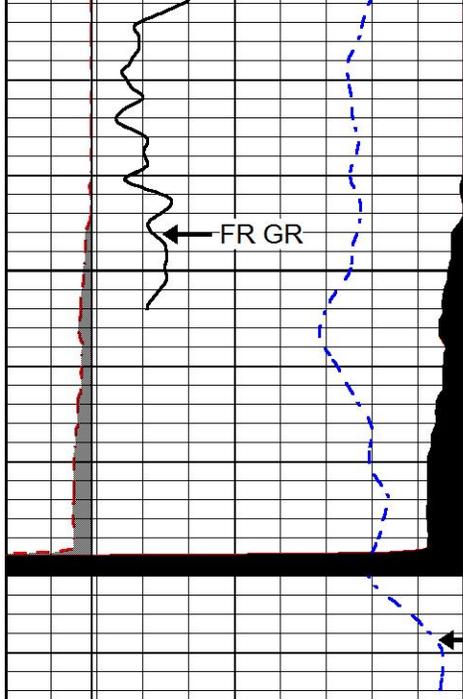
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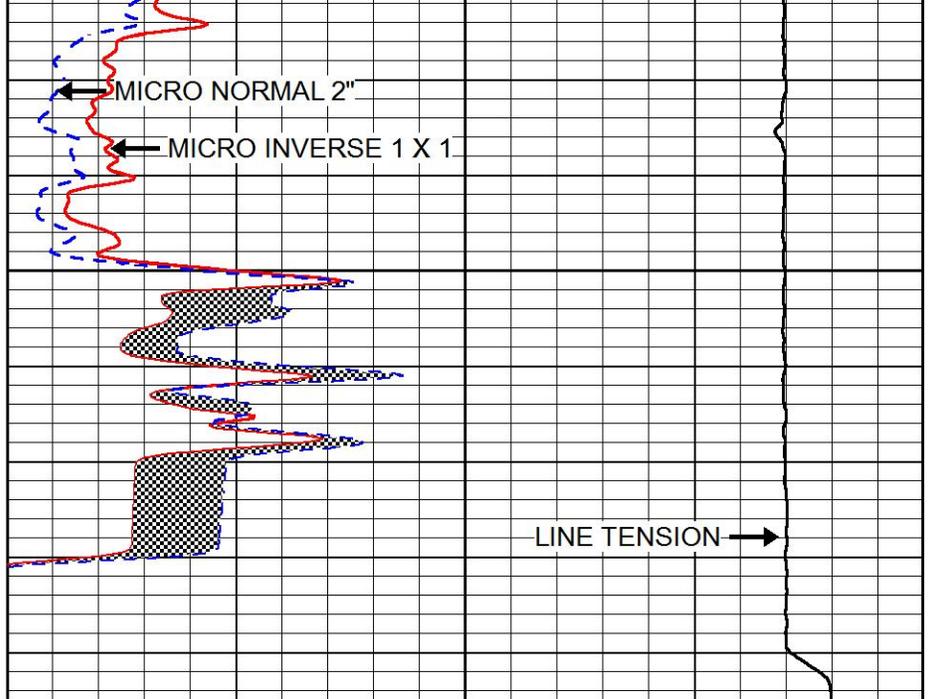
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5300





5350



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15000	LINE TENSION (lb)	0

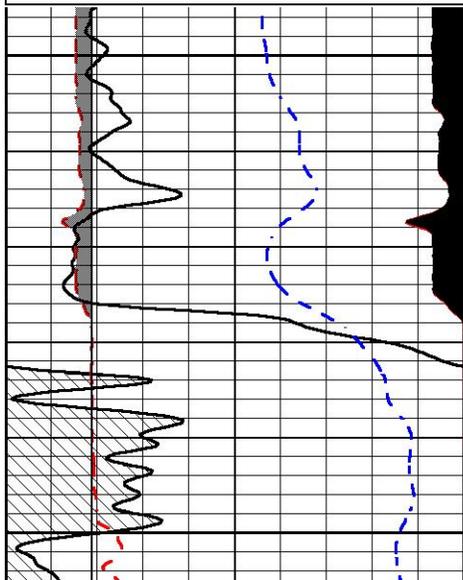


REPEAT SECTION

Database File sapphire_tracy_#1_owwo.db
 Dataset Pathname STACKML/pass2.1
 Presentation Format micro
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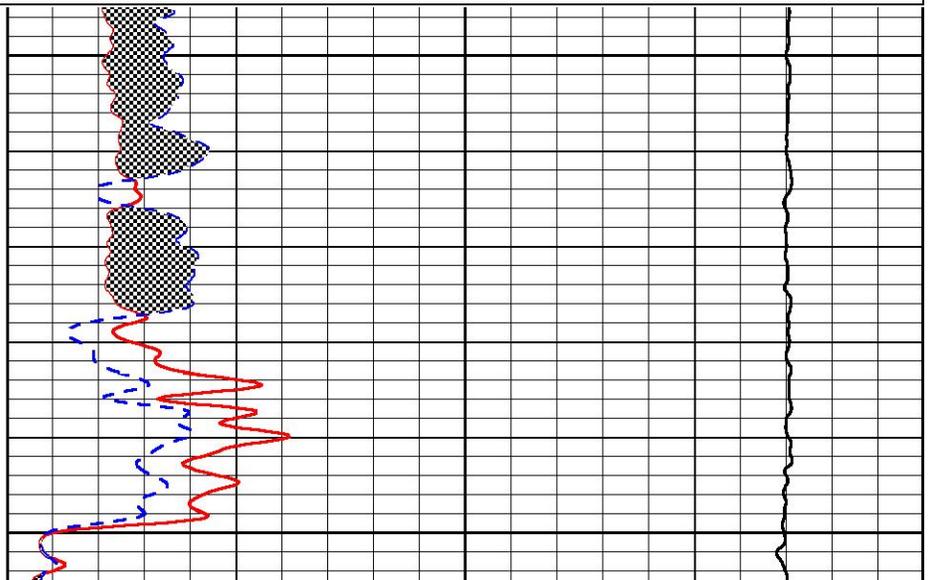
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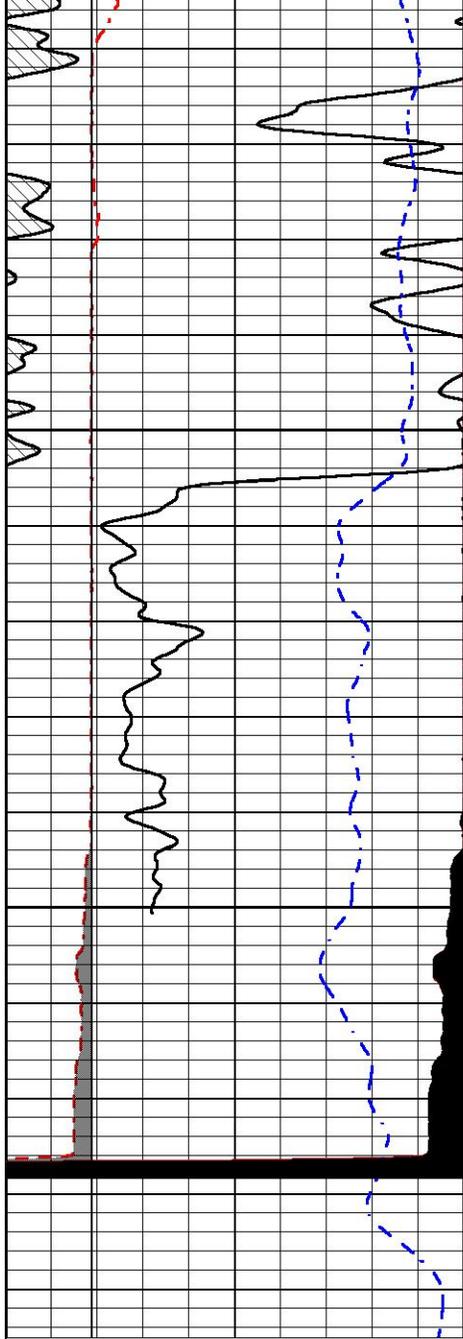
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0



5200

5250

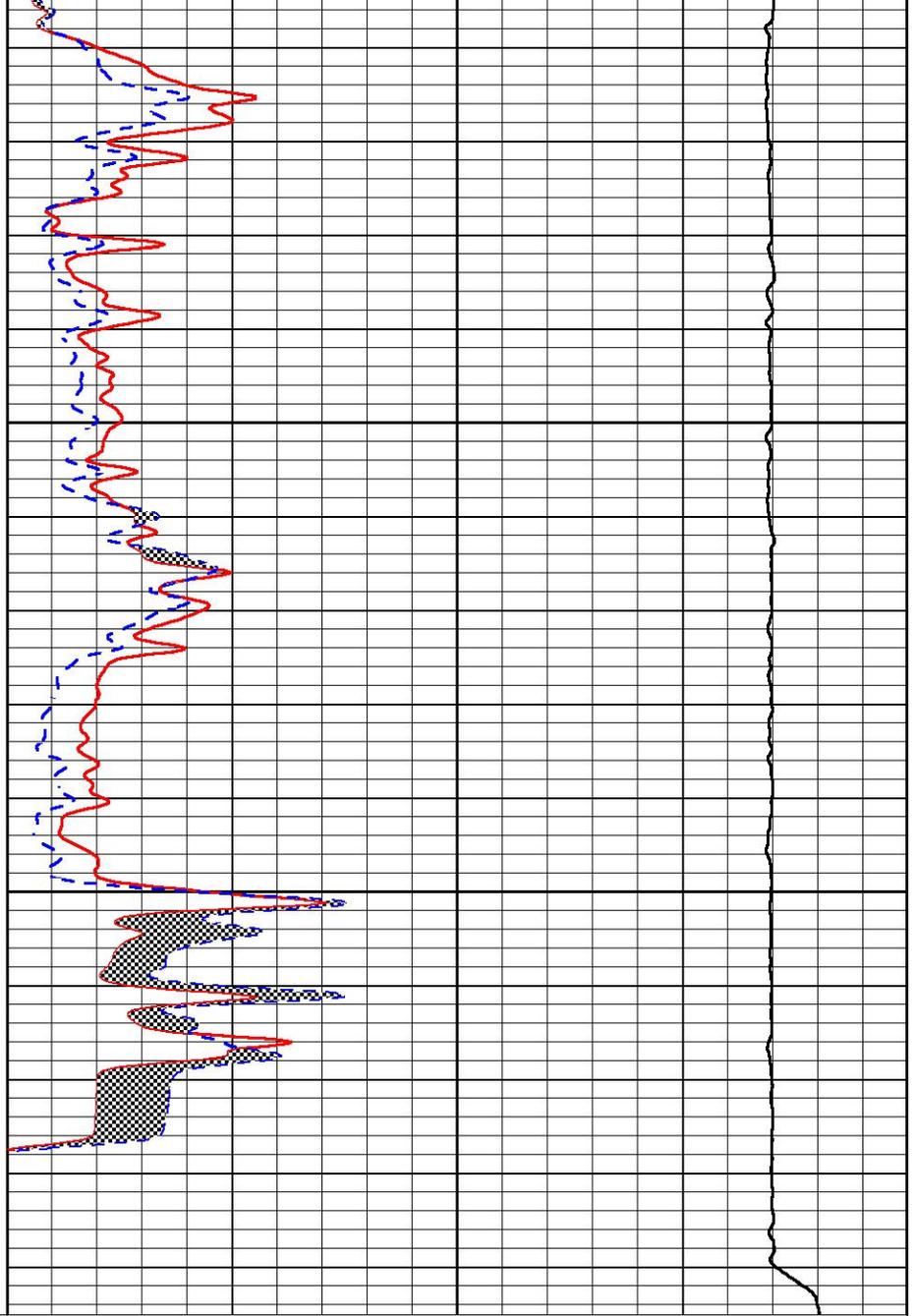




5300

5350

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